



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,166	06/27/2001	Raphael Schlanger	01-396	4513

7590

11/10/2003

Robert H. Bachman
BACHMAN & LaPOINTE, P.C.
Suite 1201
900 Chapel Street
New Haven, CT 06510-2802

EXAMINER

BELLINGER, JASON R

ART UNIT

PAPER NUMBER

3617

DATE MAILED: 11/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/893,166

Applicant(s)

SCHLANGER, RAPHAEL

Examiner

Jason R Bellinger

Art Unit

3617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 114-192 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 114-120, 122-124, 127-137, 146-147, 150, 155-157, 163-166, 168-170, 180, 181, 185 and 186 is/are rejected.
- 7) ☒ Claim(s) 127, 131, 185 and 186 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____

4) ☐ Interview Summary (PTO-413) Paper No(s) _____

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____

U.S. Patent and Trademark Office
PTOL-326 (Rev. 04-01)

Office Action Summary

Part of Paper No. 9

Continuation of Disposition of Claims: Claims withdrawn from consideration are 121,125,126,138-145,148,149,151-154,158-162,167,171-179,182-184 and 187-192.

Application/Control Number. 09/893,166
Art Unit: 3617

Election/Restrictions

1. Newly submitted claims 121, 125-126, 138-145, 148-149, 151-154, 158-162, 167, 171-179, 182-184, and 187-192 are directed to species of the invention that is independent or distinct from the invention originally claimed for the following reasons: the aforementioned claims are based upon claims drawn to nonelected species as set forth in the applicant's response filed 31 October 2002.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 121, 125-126, 138-145, 148-149, 151-154, 158-162, 167, 171-179, 182-184, and 187-192 are withdrawn from consideration as being directed to a non-elected species of the invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the rim having a blind cavity formed therein to receive an end of the spokes, as set forth in claim 114, must be shown or the feature(s) canceled from the claim(s).
Also, the rim or the hub flange having a first cavity radially and axially offset from a second cavity, as set forth in claim 185, must be shown or the feature(s) canceled from the claim(s).

Art Unit: 3617

Also, the rim or the hub flange having a first cavity with a first longitudinal engagement region that crosses over a second longitudinal engagement region of a second cavity, as set forth in claim 186, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 114-120, 122-124, 127-131, 169-170, 180-181, and 185-186 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 114-115, 124, 170, and 180 are indefinite due to the fact that it is unclear what is actually being claimed by the statement that a "firm" connection is the result of a deformed engagement between the cavity and the spoke.

Claim 169 is indefinite due to the fact that it is unclear what element of the invention is being referred to by the term "one" in lines 10-11 of the claim.

Claim 170 is indefinite due to the fact that it is unclear what element of the invention is being referred to by the term "one" in lines 1-2 of the claim.

Art Unit: 3617

5. The term "firm" in claims 114-115, 124, and 180 is a relative term, which renders the claim indefinite. The term "firm" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. In the instant case, the term "firm" is apparently being used to set forth that a type of interference-type fit is achieved by the deformation of the cavity-spoke connection. However, the term "firm" is usually used to describe the hardness of an object, and not a manner of connection.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 132-135, 146, 150, 163-166, and 168-169 are rejected under 35 U.S.C. 102(b) as being anticipated by Blean. Blean shows a tension spoke wheel having a peripheral rim **a**, a central hub **c** that will accept a central axle therethrough and further has an outer flange **c**¹. A plurality of spokes **B** extends between the rim and the hub. The spokes have first and second portions, the first portion connects to the rim and the second portion connects to the hub. A plurality of cavities is formed in the outer flange **c**¹ and is engaged with the spokes through a deformed engagement, in this case, riveting, which forms an interference fit between the spoke and the cavity.

Art Unit: 3617

The spoke includes a longitudinal axis in the engagement region that is co-linear with a longitudinal axis of the cavity, both of which extend generally in an axial direction. The spoke is bent in a region external to the region where it engages the cavity, so that it may extend to the rim. A spoke guiding portion of the outer flange c^1 is located outside the cavity, and serves to support the spoke at the bent region. At least one end of the cavities is open and the longitudinal sides are enclosed around the cross section of the spoke within the engagement region. In other words, the full cross-sectional perimeter of the spoke is in contact with the cavities in the engagement region.

A reinforcement element c^2 is connected to the outer flange, and serves to reinforce the flange against stresses caused by spoke tensile forces. This reinforcement element c^2 is a continuous annular element with a central opening to allow access for an axle, and further provides radial and hoop stress reinforcement to the outer flange.

8. Claims 114-120, 122-124, 128-130, 132, 136-137, 146-147, 150, 155-157, 168-170, and 180-181 are rejected under 35 U.S.C. 102(b) as being anticipated by Wilson. Wilson shows a wheel having a peripheral wheel rim **B**, and a central hub **A** having a central axle and outer flange **F**. A plurality of pretensioned spokes **D** extends between the rim **B** and hub **A**. A cavity is formed within the flange **F** for connection with at least one of the spokes **D**, the cavity being a blind cavity having at least one open end, closed longitudinal sides, and a closed bottom (that provides a longitudinal depth stop for the spoke).

A second portion of the spoke **D** is joined to the outer flange **F** by means of a deformed engagement, wherein the cavity surrounds and encloses the cross-section of the spoke **D** in a deformed engagement region; resulting in a "firm" connection (interference fit) between the cavity and the spoke **D**. The second portion of the spoke **D** is of a material having a hardness greater than that of the cavity (due to the fact that the spokes are formed from a metal, while the cavity is formed in an outer flange that is formed from a reinforced polymer; see column 3, lines 31-34).

The spoke **D** is helically threaded in the deformed engagement region, and thus resists being pulled out of the cavity from plastic and elastic deformation. The threads of the spoke **D** form a configured surface to which the cavity at least partially conforms thereto in the deformed engagement region; thus causing a gripping and locating engagement in a region where the spoke **D** and cavity overlap.

The engagement region has a longitudinal depth that is at least 2x greater than the cross-sectional thickness of the spoke **D**. The spoke **D** may be disassembled from the cavity without damaging the cavity.

Allowable Subject Matter

9. Claims 127, 131, and 185-186 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments filed 27 June 2003 with regards to the Blean patent have been fully considered but they are not persuasive. The applicant argues that the spoke-to-flange engagement is not deformed. However, it is clearly shown in Figures 2 and 4 that deformation does occur to the spoke when it is riveted, and thus forms a deformed engagement with the cavity of the flange.

The applicant further argues that Blean does not show a pretensioned spoke wheel. However, the examiner contends that the spokes of all tension spoke wheels experience some amount of pretensioning during the assembly process, and therefore meets the limitations of the claims.

The applicant argues that the Blean reference fails to show an interference fit or maintenance of a deformed condition. When the spoke is riveted to the flange of the hub, the deformation of the spoke causes an interference fit within the cavity as shown in Figure 4. Furthermore, the deformation of the spoke is a plastic deformation, and thus permanent. This deformation of the spoke further would act as a "gripping and locating" engagement.

11. Applicant's arguments with respect to the claims not rejected by Blean in paragraph 7 above have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 3617

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R Bellinger whose telephone number is 703-308-6298. The examiner can normally be reached on Mon - Thurs (9:00-4:30).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Morano can be reached on 703-308-0230. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 3617

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Jason R Bellinger
Examiner
Art Unit 3617

jrb
jrb


S. JOSEPH MORANO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600